HK33 E / HK 53

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HK 33 E / HK 53

Instruction Manual

Heckler & Koch, Inc.
U.S.A.

WARNING: READ ALL INSTRUCTIONS BEFORE HANDLING & USING THIS FIREARM.

Safety Rules

PLEASE READ THIS BEFORE HANDLING YOUR FIREARM.

The following safety rules are placed in this manual by Heckler & Koch, Inc. as an important reminder that firearms safety is your responsibility. Firearms can be dangerous and can potentially cause serious injury, damage to property or death, if handled improperly

1. Never point a firearm at anyone, or in any direction other than a safe one, i.e., downrange

2. Always treat all firearms as if they were loaded.

3. Keep your finger off the trigger until your sights are on the target.

4. Keep your finger off the trigger while loading or unloading the pistol.

5. Keep your finger off the trigger while pulling pistol out of the holster or holstering.

6. Be sure of your target and the back stop beyond.

7. Never give to or take a firearm from anyone unless the action is open.

8. Be sure that the ammunition you are using is factory loaded and is not damaged in anyway.

9. Before firing, remove the magazine from the weapon, lock the bolt to the rear and check the barrel of your unloaded firearm for any possible obstructions.

10. Before firing any firearm unfamiliar to you, make sure that you understand how it functions. Unfamiliarity can cause serious accidents. Attend a certified training course on any firearm which you intend to use or with which you are not sufficiently familiar.

11. Wear hearing protection and eye protection when shooting your firearm.

12. Keep your hands and fingers away from the muzzle to avoid injury or burns.

13. Firearms and ammunition should be stored separately beyond the reach of children and untrained or irresponsible adults.

14. Avoid the use of alcoholic beverages before and during any shooting.

REMEMBER: A FIREARM HAS THE CAPABILITY OF TAKING YOUR LIFE OR THE LIFE OF SOMEONE ELSE! BE CAREFUL WITH YOUR FIREARM – AN ACCIDENT IS ALMOST ALWAYS THE RESULTS OF NOT FOLLOWING BASIC SAFETY RULES.

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GENERAL

The weapons HK 33 E and HK 53, cal 5.56mm x 45 (.223) are modern combat rifles, produced in accordance with the most advanced manufacturing methods. From closed bolt position this weapons permit the firing of single shots and bursts from all shooting positions. Both weapons are recoil-operated with stationary barrel, incorporating a roller locked delayed locking system and are fed from a 25 round magazine.

The weapons HK 33E and HK 53 are largely of identical design and construction. The only differing design features refer to barrel length and handguard. Due to the very short barrel length, the HK 53 can be employed as a submachine gun.

Handling and operating of both weapons are identical.

In the present description you can see illustrations of the HK 33E.

Existing models:

1. Rifle with fixed buttstock. A bayonet can also be attached. (Fig. 1)

2. Rifle with retractable buttstock (Fig.2)

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TECHNICAL DATA HK 53

Caliber	5.56mm x 45 (.223)
Length of weapon with fixed buttstock	29.72 in (755 mm)
Length of weapon with retracted buttstock	22.16 in (563mm)
Sight radius	15.35 in. (390 mm)
Barrel length	8.30 in. (211 mm)
Weight of weapon without magazine	6.72 lbs. (3.05 kg)
Weight of 25 round steel magazine, empty	8.82 oz. (0.25 kg)
Weight of cartridge	170 gr (0.011 kg)
Rate of fire, approx.	700 r.p.m.
Muzzle velocity –Vo-, approx.	2460 f.p.s. (750 m/s)
Muzzle energy –Eo-	723 ft. lbs. (1000 J)
Range of sight ---diopter---	200, 300, 400 m

6 Grooves with constant right-hand twist

3. Sniper rifle with telescopic sight (Fig. 3)

4. Carbine HK 33K (Fig.4)

5. Sub-machine gun HK 53 (Fig. 5)

ASSEMBLY GROUPS (Fig. 6)

1. Receiver and barrel, cocking mechanism and sights
2. Bolt
3. Grip assembly and trigger mechanism
4. Buttstock
5. Handguard
6. Magazine

ACCESSORIES (Fig. 23 – 27)

Retractable buttstock
Bipod
Telescopic sight
Blank attachment
Special bolt for blank cartridges
Combat carrying sling

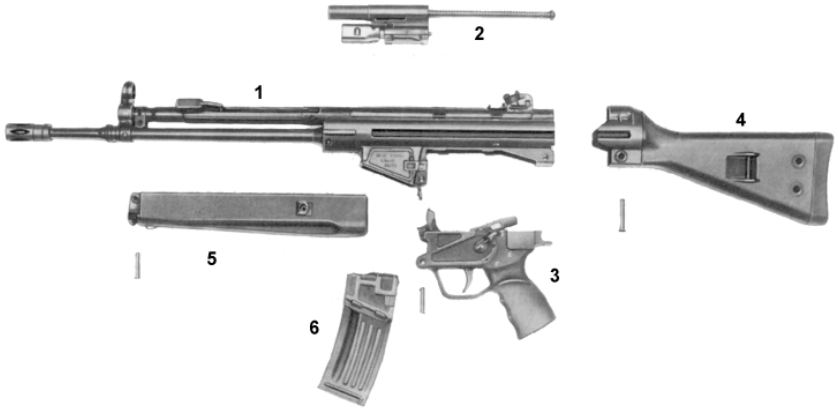


Fig. 6 Assembly groups

TECHNICAL DATA HK 33 E

Caliber	5.56mm x 45 (.223)
Length of weapon with fixed buttstock	36.22 in (920mm)
Length of weapon with retracted buttstock	28.93 in (735 mm)
Sight radius	18.89 in (480 mm)
Barrel length	15.35 in. (390 mm)
Weight of weapon with fixed buttstock, without magazine	8.05 lbs. (3.65 kg)
Weight of weapon with retractable buttstock, without magazine	8.80 lbs. (4.00 kg)
Weight of 25 round steel magazine, empty	8.82 oz. (0.25 kg)
Weight of cartridge	170 gr (0.011 kg)
Rate of fire, approx.	750 r.p.m.
Muzzle velocity –Vo-, approx.	3020 f.p.s. (920 m/s)
Muzzle energy –Eo-	1084 ft. lbs. (150 kpm)
Range of sight ---diopter---	200, 300, 400 m

6 Grooves with constant right-hand twist.

The line of HK 33E rifles is complemented by a carbine version HK 33K E.

TECHNICAL DATA HK 33K E

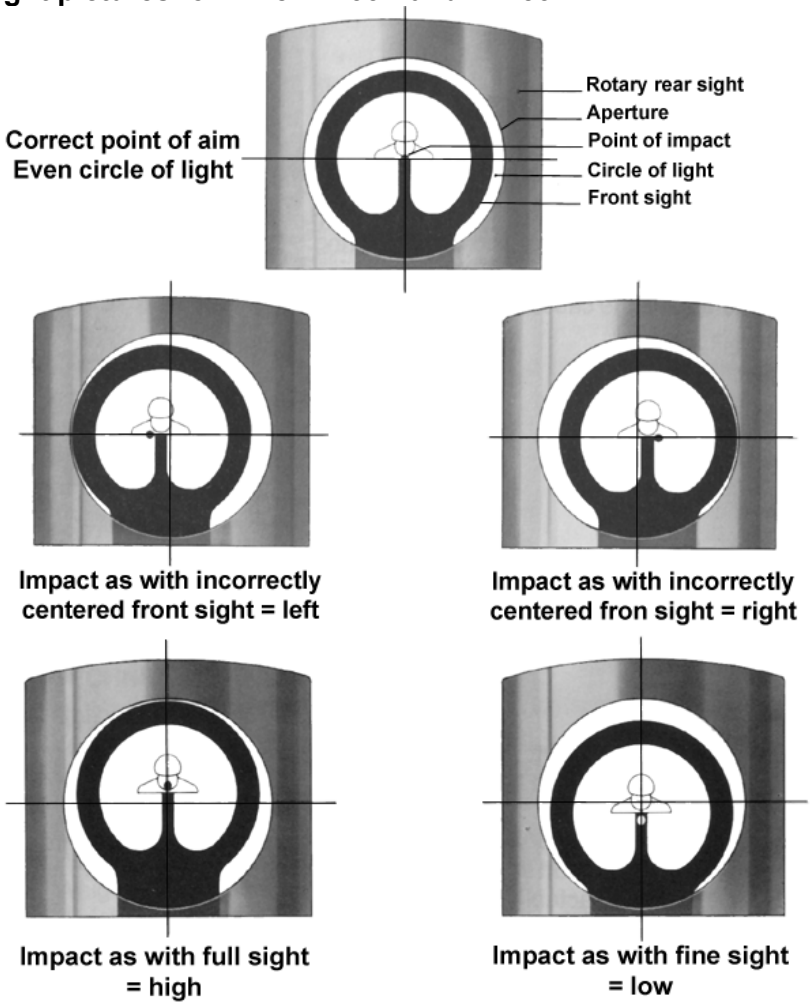
Caliber	5.56mm x 45 (.223)
Length of weapon with fixed buttstock	34.05 in (865 mm)
Length of weapon with retracted buttstock	26.75 in (675mm)
Sight radius	18.89 in. (480 mm)
Barrel length	12.67 in. (322 mm)
Weight of weapon without magazine	8.75 lbs. (3.89 kg)
Weight of 25 round steel magazine, empty	8.82 oz. (0.25 kg)
Weight of cartridge	170 gr (0.011 kg)
Rate of fire, approx	700 r.p.m.
Muzzle velocity –Vo-, approx.	2880 f.p.s. (880 m/s)
Muzzle energy –Eo--	998 ft. lbs. (138 kpm)
Range of sight ---diopter---	200, 300, 400 m

6 Grooves with constant right-hand twist

FAILURE TO FUNCTION

- Operate the cocking lever and continue firing.
- If round does not fire, put at safe and remove magazine. Unload rifle and determine the cause of malfunction.

Sight pictures for Rifle HK 33E and HK 53


Correct point of aim
Even circle of light
Rotary rear sight
Aperture
Point of impact
Circle of light
Front sight
Impact as with incorrectly centered front sight = left
Impact as with incorrectly centered fron sight = right
Impact as with full sight = high
Impact as with fine sight = low

DESCRIPTION OF THE ASSEMBLY GROUPS

Assembly 1 Receiver and barrel, cocking mechanism and sights

The receiver connects barrel, cocking mechanism and sights. All major assemblies are housed within or attached to that group (Fig. 7).

The barrel is a press fit in the barrel extension and is pinned. The threaded muzzle receives a flash suppressor which also serves as a grenade launcher. The cocking mechanism is arranged above the barrel. It is used for manual operation of the action and to arrest the bolt in rear position.

The sighting device consists of a front sight and a rotary rear sight. This rotary rear sight is provided with 3 aperture positions and 1 open “V” sight and may be set for a range of 200, 300, and 400 meters.

The rotary rear sight can be adjusted for elevation and windage.

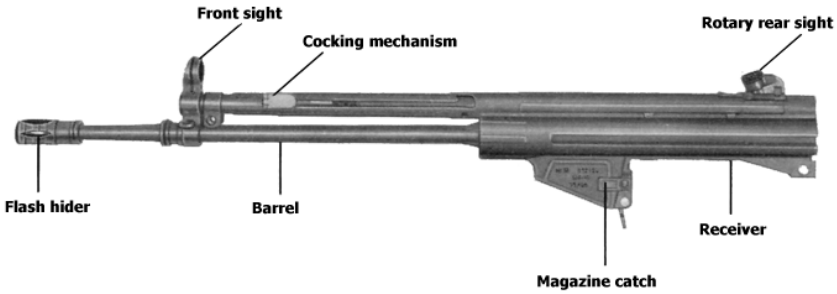


Fig. 7 Receiver and barrel, cocking mechanism and sights

Assembly 2 Bolt assembly

The bolt assembly (Fig. 8) consists of:

Fig. 8 Bolt assembly

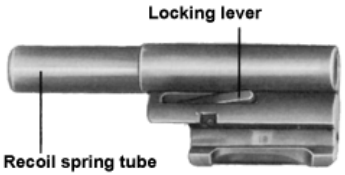


Fig 9 Bolt body

Fig 10 Recoil spring guide rod and recoil spring

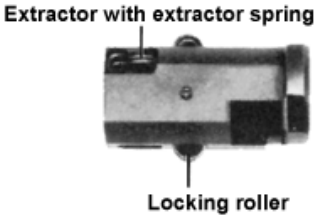


Fig 11 Bolt-head, complete

Fig 12 Locking piece

Fig 13 Firing pin spring

Fig 14 Firing pin

The bolt assembly is housed and guided in the receiver. Assisted by the recoil spring the bolt feeds, locks and fires the cartridge and also serves to extract and eject the empty case after firing and to cock the hammer.

Carrying and slinging modes

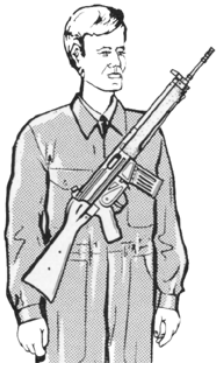


Fig. 48

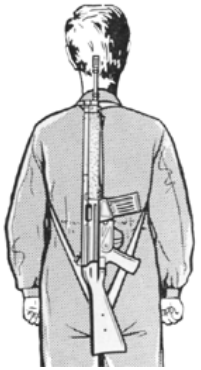


Fig. 49

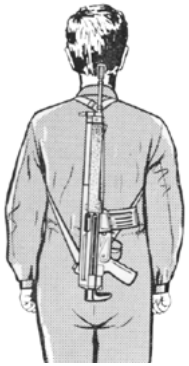


Fig. 50

Fig. 51

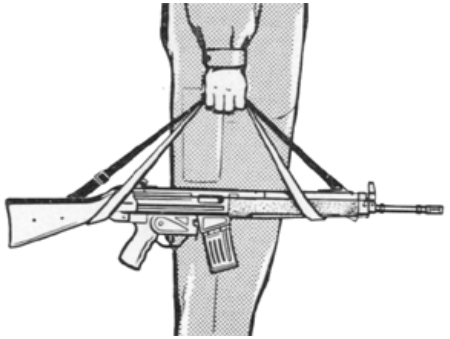


Fig. 52

Firing position

Fig. 53

Fig. 54

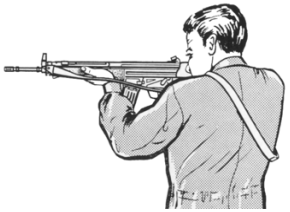


Fig. 55

USING THE COMBAT CARRYING SLING

The combat carrying sling can be adjusted to the right length for the individual rifleman by adjusting the sling clamp. The revision of the right length of the carrying sling can be effected by a control in the firing position desired (see Fig. 54).

When the weapon is to be carried slung around the rifleman's chest, sling section No.1 must run across his back, while sling section No. 2 will run across his chest.

When using the combat carrying sling as an ordinary carrying sling, attach only the spring hook to the eyebolt.

Fig. 47 Use of combat carrying sling

Assembly 3 Grip assembly and trigger mechanism

The grip assembly (Fig. 15) is hinged to the receiver, can be swung down and removed from it. It contains the trigger mechanism (Fig. 16) and the safety device. The safety axle connects the trigger mechanism to the grip.

Fig 15 Grip assembly and trigger mechanism

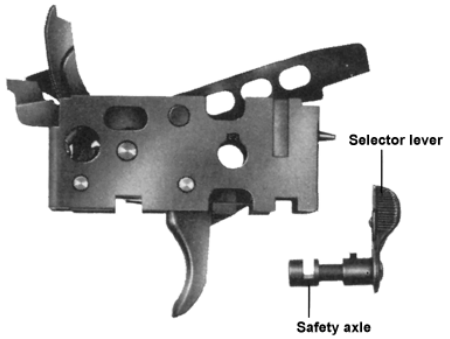


Fig 16 Trigger mechanism and safety device

Assembly 4 Buttstock

Fixed buttstock

The fixed buttstock closes the receiver at the rear (Fig. 17). It is fastened to the receiver by a locking pin.
The sling holder is attached to the buttstock by means of tubular rivets, which serve at the same time to store the locking pins when stripping the rifle.

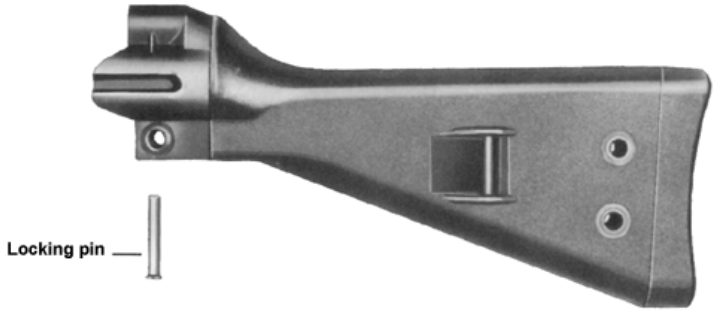


Fig. 17 Fixed butt stock

Assembly 5 handguard

The detachable handguard (Fig. 18) encloses the barrel from below. It is fastened to the weapon by a locking pin. A quick release hook for fastening the combat carrying sling is fitted to the handguard.
The leaf spring attached to the bottom of the handguard serves as a catch for the bipod.

Fig. 18 Handguard

Assembly 6 magazine

The magazine is made of steel and takes 25 cartridges (Fig. 22).

Fig 19 Magazine tube

Fig 20 Floor plate

Fig 21 Follower, follower spring and locking plate

Fig 22

Point of impact, right: Loosen clamping screw (Fig. 45) on top of sight base. Turn adjusting screw (Fig. 46) on the right side clockwise according to requirement. The clamping screw should be tightened after adjustment.

Note: Each revolution of the adjusting screw moves the mean point of impact 6.15 inches (15.6 cm) to either side 100 meters (109 yes.).

Fig. 45 Loosening of clamping screw

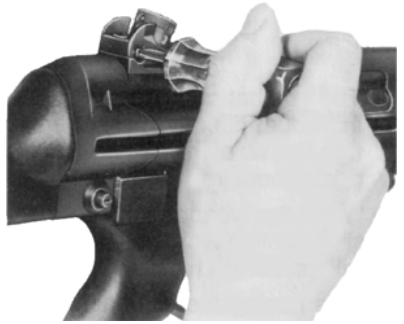


Fig. 46 Turning of adjusting screw

ADJUSTING THE ROTARY REAR SIGHT

If during firing it is necessary to zero the rifle, this is affected by adjustment of the elevation and windage of the rear sight only.

Elevation adjustment:

Insert elevation adjustment tool into sight cylinder (Fig. 44) in such a way that the wedges of the tool engage in the two slots containing the catch bolts. Press Phillips screwdriver into elevation adjustment tool and hold it there.

Rotate sight cylinder in desired direction by hand; (to lower point of impact turn clockwise, to raise point of impact turn counter-clockwise. Each ¼ turn moves the point of impact 1.6 inches (4.0 cm) at 100 meters (109 yds.).

After correction remove screwdriver and elevation adjustment tool. Again the catch bolts engage in the slots.

Following completion of elevation **adjustment set** sight cylinder at desired range.

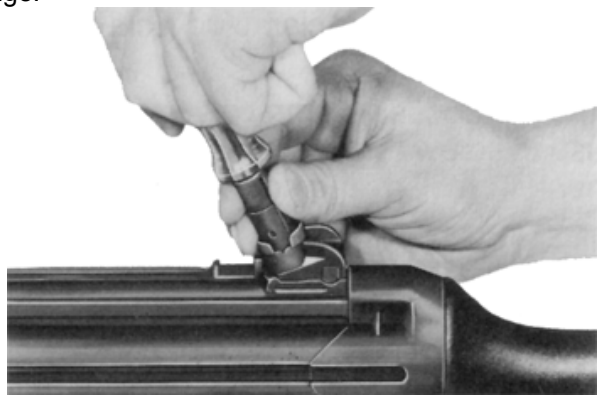


Fig. 44 Elevation adjustment

Windage adjustment:

Point of impact, left: Loosen clamping screw (Fig. 45) on top of sight base. Turn adjusting screw (Fig. 46) on the right side counter-clockwise according to requirement. The clamping screw should be tightened after adjustment.

Accessories

Retractable buttstock

The fixed buttstock can be replaced by a retractable buttstock (Fig. 23). The two rails of the buttstock are guided alongside of the receiver. They are arrested by a spring-loaded gripping lever in retracted and extended position.

A support for fastening the combat sling is fitted to the back plate.

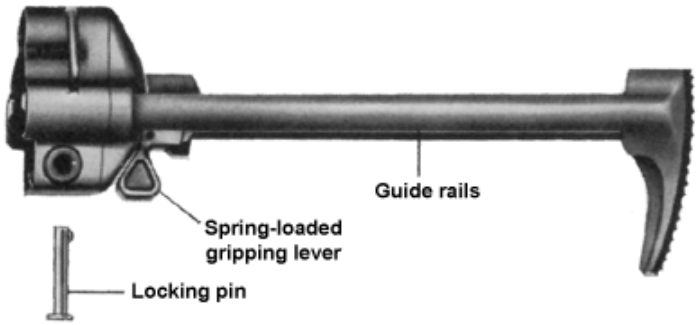


Fig. 23 Retractable butt stock

Bipod

The bipod (Fig. 24) is foldable and detachably located on the handguard and serves as front support of the rifle. A catch avoids collapsing of bipod.

Fig. 24 Bipod

Telescopic sight
The telescopic sight (Fig. 25) is fixed to its mount by two screws.

The receiver of each weapon is designed to receive a telescopic sight directly without any modification.

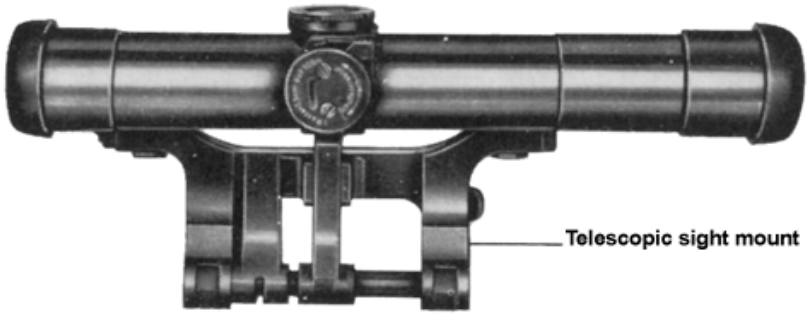


Fig. 25 Telescopic sight

Blank attachment
When firing blank cartridges the combined flash hide-grenade launcher is unscrewed and replaced by the blank attachment. (Fig. 26). The gas pressure can be regulated by turning the nozzle bolt (with the head of the cartridge case).

Powder residues can be removed by putting the blank attachment into kerosene.

Fig. 26 Blank attachment

REASSEMBLY OF RIFLE

- Attach handguard.
- Push assembled bolt with recoil spring into receiver.
- Attach grip assembly.
- (Set selector lever on grip assembly at “S”).
- Attach fixed or retractable buttstock and insert locking pin (Fig. 43).
- Hook in combat carrying sling.
- Check correct reassembly of the weapon by carrying out several cocking operations.

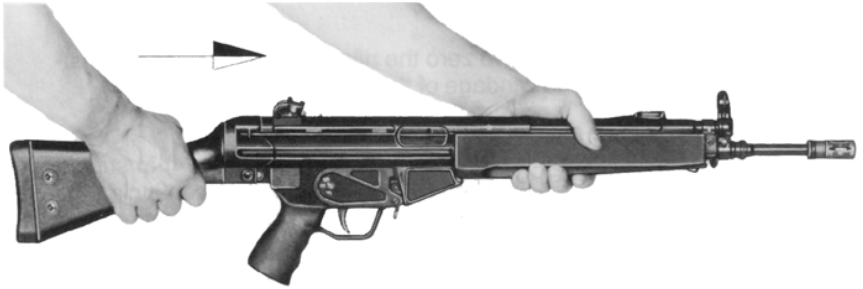


Fig. 43 Reassembly of rifle.

Disassembly of bolt
Recoil spring to be pulled out somewhat angular in the rearmost position from recoil spring tube.

Remove the bolt head from the bolt assembly by turning it 90 degrees to the right. Turn locking piece until lug is clear and can be withdrawn from the bolt head carrier. Remove firing pin and firing pin spring

Fig 41 Disassembly of bolt

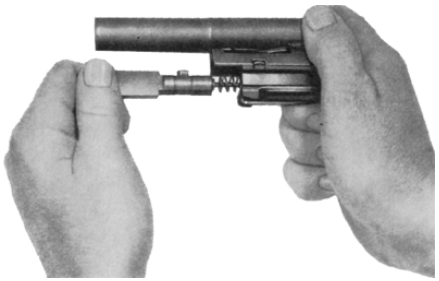


Fig. 42 Extracting the locking piece, firing pin and firing spring

Reassembly of bolt is done by reversing the disassembly procedure. Push bolt head with is slanted surface under the nose of the locking lever holding a distance of about a ¼" to the bolt head carrier and turn to the left until the slide-surfaces of bolt head and bolt head carrier are level. Push recoil spring into recoil spring tube.

Disassembly of grip with trigger mechanism.
Set the selective fire lever to point vertically upwards, and then pull the lever out. Remove the trigger mechanism. Further disassembly should only be done by Ordnance Personnel. If grip assembly is extremely fouled, it should be washed out with a cleaning solvent.

Combat carrying sling
The combat carrying sling (Fig. 27) serves to carry the rifle and when connected to the quick release hook on the handguard, the rifle can be used immediately in all firing positions.

Fig. 27 Combat carrying sling

HANDLING AND OPERATING

Filling of magazine
One hand holds the magazine (Fig. 28) the other hand places the cartridge on the magazine lip and presses the top cartridge with the thumb under the lip.

Emptying the magazine
One hand holds the magazine. The points of the cartridges point to the front. By means of a wooden chip or a cartridge the second cartridge is pressed down whereby the uppermost cartridge falls out by itself.

Fig. 28 Filling of magazine

DISASSEMBLY OF RIFLE FOR CLEANING

Put at "safe"!

Remove magazine

- Unload; draw cocking lever rearward, make sure that the chamber is clear, let bolt snap forward.
- Unhook combat sling at the front sight holder.
- Remove locking pin and store it one of the tubular rivets of the fixed buttstock.
- Detach buttstock (Fig. 39); hinge down or remove the grip assembly.
- Retract bolt and recoil spring by means of the cocking lever and remove both parts to the rear (Fig. 40).
- Detach handguard.

Fig. 39 Removal of butt stock

Fig. 40 Removal of bolt

After the locking rollers have submerged completely into the bolt head, the bolt continues to move to the rear, ejecting the cartridge case and cocking the hammer.

Now the compressed recoil spring drives the bolt forward again whereby the cartridge is pushed from the magazine into the chamber. The extractor engages in the extractor groove of the cartridge.

The inclined faces of the locking piece cam the locking rollers against the supporting surfaces inside the barrel extension (Fig. 36). The weapon is now ready to fire.

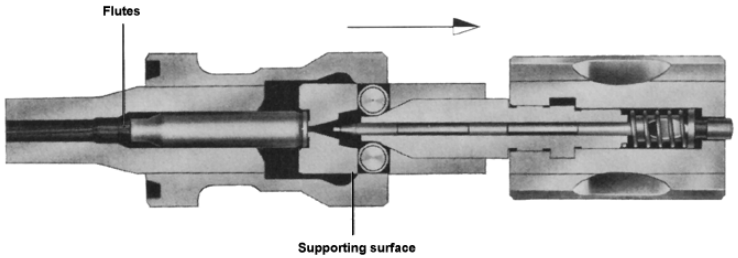


Fig. 36 Bolt in unlocked position.

In single fire operation (Fig. 37), after a round has been fired, the hammer must be released again by the trigger for the next shot.

During a burst (Fig. 38) the trigger lever is out of reach of the hammer notch. The cocked hammer is released from the catch by the action of the release lever.

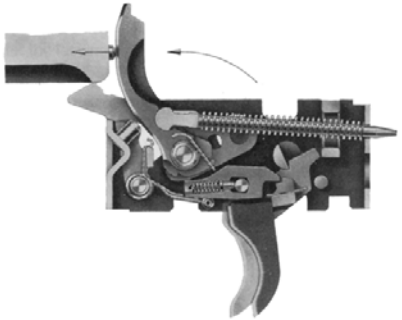


Fig. 37 Single fire

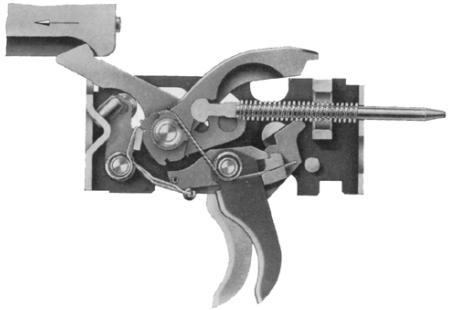


Fig. 38 Burst

SAFETY FEATURES

The three position selector lever is situated on the left side of the grip assembly and may be set for:
S = Safe; E = Single fire; F = Burst (Fig. 29)
The position selected is indicated also on the opposite side of the grip assembly (Fig. 30). An indicator mark points to one of the letters S, E, F.

How to put at safe;
Set the selector lever at “S”. Now it is impossible to operate the trigger. However, the rifle can be loaded while in “safe” condition.

Firing!
Single fire: Set selector lever at “E”.
Burst: Set selector lever at “F”

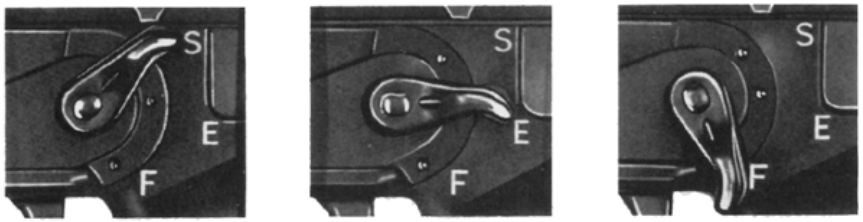


Fig. 29

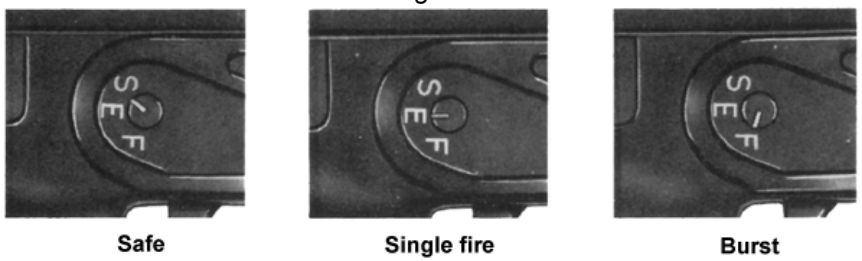


Fig. 30

Inserting and removing magazine

Put at “safe”!

Insert magazine into the magazine well (Fig. 31), until the magazine catch engages audibly.
For removal of the magazine, push the magazine release lever (Fig. 32).

Fig. 31 Inserting of magazine

Fig. 32 Removing of magazine

Loading of rifle

Put at “Safe”!

Draw the cocking lever with the left hand rearward engaging it in the hold open recess of the housing (Fig. 33).

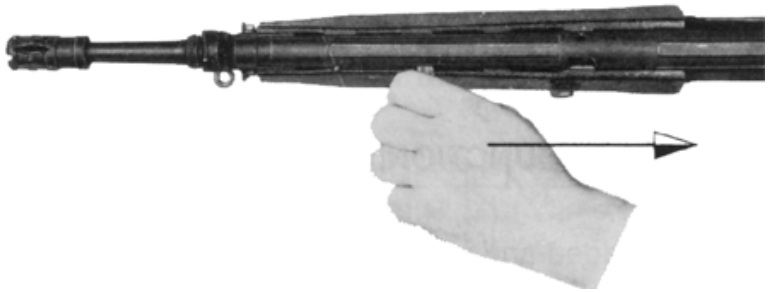


Fig. 33 Retracting of cocking lever

Insert the filled magazine into the magazine well until the magazine catch audibly locks magazine into position (Fig. 31).

After allowing the cocking lever to snap forward the weapon is loaded and “safe” (Fig. 34).

Fig. 34 Cocking lever snapping forward

FUNCTIONING OF PARTS

The weapon is loaded and ready to fire.

By pulling the trigger the hammer is released and strikes the firing pin which in turn fires the cartridge. The powder gases drive the projectile forward in the barrel, but at the same time act against the cartridge case base. The forces reacting on the bolt face are transmitted by the locking rollers partly to the receiver and partly to the locking piece and thus to the bolt head carrier, whereby the properly matched ratio of angles of the locking piece and the barrel extension causes a delayed recoil movement of the bolt head.

This guarantees a closed breech until the projectile has left the muzzle.

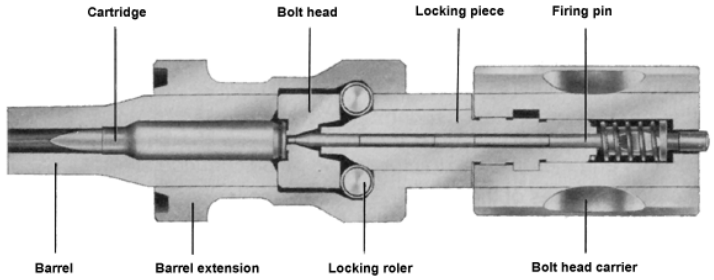


Fig. 35 Closed bolt position